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 Urgent X For Review Please Comment

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In advance of interview scheduled April 22, 2003 at 9:00 AM.

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PROPOSED CLAIMS

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59. A semiconductor light emitting device comprising a base having first and second external terminals (3, 4), a semiconductor light emitting element (2) secured to said base, and a light-permeable coating material (10) for covering said semiconductor light emitting element (2), said semiconductor light emitting element (2) comprising electrodes (2f, 2g) electrically connected respectively to said first and second external terminals (3, 4),
wherein said coating material (10) is selected from one of the following:
(1) a glass of a polymetaloxane formed mainly based on the metaloxane bond,
(2) a gel of a polymetaloxane, and
(3) a ceramic formed from a ceramic precursor, and
said coating material (10) tightly and strongly adheres *directly* to the semiconductor light emitting element (2) and electrodes (2f, 2g).
60. A semiconductor light emitting device of claim 59, wherein polymetaloxane of said coating material (10) is formed from a metal alcoxide.
61. A semiconductor light emitting device of claim 60, wherein said metal alcoxide is of one or more type selected from a single-metal alcoxide, a two-metal alcoxide and a multi-metal alcoxide.
62. A semiconductor light emitting device of claim 59, wherein said ceramic precursor is a polysilazane.
63. A semiconductor light emitting device of claim 62, wherein ceramic of said coating material (10) is formed by applying a heat treatment to the ceramic precursor.
64. A semiconductor light emitting device of claim 59, wherein said coating material (10) covers all the surfaces of said semiconductor light emitting element (2) excluding the bottom surface thereof.
65. A semiconductor light emitting device of claim 59, wherein said base has a concavity (3a) filled with said coating material (10).

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66. A semiconductor light emitting device of claim 59, wherein said base is an insulative substrate or a lead frame.
67. A semiconductor light emitting device of claim 59, wherein said semiconductor light emitting element (2) emits light at light wavelengths of 365 nm to 550 nm.
68. A semiconductor light emitting device of claim 67, wherein said semiconductor light emitting element (2) comprises a gallium nitride compound semiconductor light emitting element.
69. A semiconductor light emitting device of claim 59, wherein said semiconductor light emitting element (2) is secured to said base through an adhesive (12) formed from a polymetaloxane or a ceramic.
70. A semiconductor light emitting device of claim 69, wherein said adhesive (12) and said coating material (10) are formed by using the same material.
71. A semiconductor light emitting device of claim 59, wherein said coating material (10) contains a fluorescent substance (10a) for receiving at least a part of the light projected from said semiconductor light emitting element (2) to perform wavelength-conversion of the light.
72. A semiconductor light emitting device of claim 71, wherein said fluorescent substance (10a) absorbs at least a part of the light projected from said semiconductor light emitting element (2), and emits light having a wavelength longer than that of the light projected.
73. A semiconductor light emitting device of claim 72, wherein the light projected from said semiconductor light emitting element (2) is mixed with the light wavelength-converted by said fluorescent substance (10a) to release the mixed light out of said coating material (10).
74. A semiconductor light emitting device of claim 59, wherein said coating material (10) is covered with an encapsulant (8).

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75. A semiconductor light emitting device of claim 74, wherein said encapsulant (8) is formed of a plastic which contains a light scattering material or a binder (10b).
76. A semiconductor light emitting device of claim 75, wherein the light projected from said semiconductor light emitting element (2) permeates said coating material (10) before being released to the outside of said encapsulant (8).
77. A semiconductor light emitting device of claim 76, wherein said encapsulant (8) is fitted into said concavity (3a), and said coating material (10) is formed between the bottom surface (3b) of said concavity (3a) and said encapsulant (8).
78. A semiconductor light emitting device of claim 59, wherein a concavity (3a) is formed in one principal surface of an insulative substrate (11) for constituting said base; said semiconductor light emitting element (2) is secured to the bottom surface (3b) of the concavity (3a); and a pair of said electrodes (2f, 2g) in said semiconductor light emitting element (2) is electrically connected to a pair of said external terminals (3, 4) formed on the one principal surface of said insulative substrate (11).
79. A semiconductor light emitting device of claim 59, wherein a lead frame for constituting said base has a pair of said external terminals (3, 4); a concavity (3a) is formed in either of said external terminals (3, 4); said semiconductor light emitting element (2) is secured to the bottom surface (3b) of the concavity (3a).